CLAIMS

1. A component mounting device, comprising:

a component collar;

a component mounting frame configured to receive the component collar; and

a clocked gear assembly coupled to the component mounting frame, the clocked gear assembly configured to enable movement of the component in at least two directions to actively enable the component.

2. The component mounting device of claim 1, further comprising:

a vertical rack gear on the component collar;

a horizontal rack gear on the component collar;

a vertical clocked gear in the clocked gear assembly;

a horizontal clocked gear in the clocked gear assembly; and

a lever for controlling the vertical clocked gear and the horizontal clocked gear,

wherein the vertical rack gear meshes with the vertical clocked gear to enable movement of the component collar in a first direction and the horizontal rack gear meshes with the horizontal clocked gear to enable movement of the component collar in a second direction.

3. The component mounting device of claim 2, wherein movement in the first direction and in the secon direction is accomplished by movement of the lever along an arc.

4. The component mounting device of claim 3, wherein the lever includes a first pin to engage the vertical clocked gear, the vertical clocked gear having a first slot for

receiving the first pin, and the lever includes a second pin to engage the horizontal clocked gear, the horizontal clocked gear having a second slot for receiving the second pin.

5. The component mounting device of claim 4, wherein movement of the lever through a first segment of the arc causes the first pin to engage the first slot to move the vertical clocked gear and movement of the lever through a second segment of the arc causes the second pin to engage the second slot to move the horizontal clocked gear.

6. The component mounting device of claim 5, wherein the first pin disengages from the first slot and the second pin engages the second slot at a cross-over point.

7. The component mounting device of claim 5, wherein the arc is defined by approximately 90 degrees, the first segment being defined by approximately 45 degrees and the second segment being defined by approximately 45 degrees.

8. The component mounting device of claim 1, wherein movement of the component in a first direction is configured to enable insertion of the component device into an array of component devices and movement of the component in a second direction is configured to enable connection of the component to a board connector.

9. A component mounting device, comprising:

a component collar for holding a component, the component collar having a first rack gear and a second rack gear;

a component mounting frame configured to receive the component collar;

a clocked gear assembly coupled to the component mounting frame, the clocked gear assembly configured to enable movement of the component collar in a first direction upon initial engagement with the first rack gear of the component mounting frame, and movement of the component collar in a second direction upon release of the clocked gear assembly by first rack gear and engagement of the second rack gear to the clocked gear assembly.

10. The component mounting device of claim 9, wherein the clocked gear assembly is further configured to enable movement of the component collar in the first direction upon release of the clocked gear assembly by the second rack gear of the component mounting frame, and engagement of the first rack gear to the clocked gear assembly.

11. The component mounting device of claim 9, wherein the component mounting frame comprises a track for engaging the component collar, the track guiding the component collar during movement of the component collar in the first direction and guiding the component collar during movement of the component collar in the second direction.

12. The component mounting device of claim 9, wherein movement of the component collar in the second direction is configured to enable connection of the component to a board connector.

13. The component mounting device of claim 10, wherein movement of the component collar in the first direction is configured to enable insertion of the component

into an array of components and is further configured to enable extraction of the component from an array of components.

14. A computer component mounting device, comprising:

a computer component disposed in a component collar;

a component mounting frame configured to receive the component collar;

a clocked gear assembly configured to enable movement of the computer component in each of a first direction and a second direction,

wherein the computer component mounting device provides for positioning the computer component in the first direction and for positioning the computer component in the second direction.

15. The computer component mounting device of claim 14, wherein the clocked gear assembly includes:

a vertical clocked gear;

a horizontal clocked gear; and

a lever for controlling the vertical clocked gear and the horizontal clocked gear,

wherein the vertical clocked gear and the horizontal clocked gear are independently actuated by movement of the lever, the lever having a first pin configured to engage a first slot on the vertical clocked gear and the lever further having a second pin configured to engage a second slot on the horizontal clocked gear.

16. The computer component mounting device of claim 15, wherein positioning the computer component in the first direction and in the second direction is accomplished by movement of the lever in through a single arc.

17. The computer component mounting device of claim 15, wherein movement of the lever through a first arc segment causes the first pin to engage the first slot to move the vertical clocked gear, and movement of the lever through a second arc segment causes the second pin to engage the second slot to move the horizontal clocked gear.

18. A computer device carrier system, comprising:

a carrier blade capable of receiving a plurality of computer devices and further configured to arrange the plurality of computer devices in at least one array of computer devices;

a computer device frame attached to the carrier blade, the computer device frame providing positioning and support for a computer device, and including a clocked gear assembly capable of positioning the computer device in each of a first direction and a second direction; and

a computer device collar coupled to the computer device, the computer device collar configured to be received by the computer device frame to position and support the computer device.

19. The computer device carrier system of claim 18, wherein the clocked gear assembly includes:

a vertical clocked gear;

a horizontal clocked gear; and

a lever for controlling the vertical clocked gear and the horizontal clocked gear,

wherein the vertical clocked gear and the horizontal clocked gear are independently actuated by movement of the lever, the lever having a first pin configured to engage a first

slot on the vertical clocked gear, and a second pin configured to engage a second slot on the horizontal clocked gear, and movement of the lever through a first arc causes the first pin to engage the first slot to move the vertical clocked gear and movement of the lever through a second arc causes the second pin to engage the second slot to move the horizontal clocked gear, and a cross-over point being defined when the first pin disengages from the first slot and the second pin engages the second slot.

20. In an integrated computer and server component rack, a storage array carrier system, comprising:

a carrier blade capable of receiving a plurality of storage devices and arranging the plurality of storage devices in a plurality of linear arrays;

a storage device frame attached to the carrier blade to position and to secure a storage device, the storage device frame including a clocked gear assembly configured to enable movement of the storage device in at least two directions; and

a device collar coupled to the storage device, the device collar capable of being received in a track of the storage device frame, the device collar configured to mesh with the clocked gear assembly to position the storage device and to connect the storage device to, and disconnect the storage device from, a power and data connection.

21. In an integrated computer and server component rack, the storage array carrier system of claim 20, wherein the clocked gear assembly includes:

a vertical clocked gear;

a horizontal clocked gear; and

a lever for controlling the vertical clocked gear and the horizontal clocked gear,

wherein the vertical clocked gear and the horizontal clocked gear are independently actuated by movement of the lever to mesh with each of a vertical rack gear of the device collar and a horizontal rack gear of the device collar for inserting the storage device into and removing the storage device from a location in one of the plurality of linear arrays of storage devices without one of connecting and disconnecting another storage device.

22. An apparatus, comprising:

a collar;

a first gear positioned on the collar; and

a second gear positioned on the collar and proximate to the first gear,

wherein the first and the second gears are configured for engaging corresponding portions of a receiving mechanism.

23. The apparatus of claim 22, wherein:

the first gear comprises a first plurality of linearly arranged gear teeth; and

the second gear comprises a second plurality of linearly arranged gear teeth.

24. The apparatus of cliam 23, wherein the first plurality of linearly arranged gear teeth is substantially perpendicular to the second plurality of linearly arranged gear teeth.

25. The apparatus of claim 24, wherein the first plurality of linearly arranged gear teeth is not co-planer with the second plurality of linearly arranged gear teeth.

26. The apparatus of claim 22, wherein the first gear defines a first plane and the second gear defines a second plane, different from the first plane, and offset in a first direction perpendicular to the first and second planes.

27. The apparatus of cliam 23, wherein a number of gear teeth on the first gear is equal to a number of gear teeth on the second gear.

28. The apparatus of claim 22, further comprising:

means for coupling the collar to a component.